

APPARATUS AND METHOD
FOR PREVENTING DATA COLLISION
IN A RADIO FREQUENCY IDENTIFICATION TAG SYSTEM

Abstract of the Disclosure

5 A radio frequency identification (RFID) system includes
a reader capable of reading data of each RFID device without
data collision when a number of contactless smart cards and
RFID tags within a radio frequency field and an RFID tag.
And, method for preventing data collision in the RFID system
includes the steps of transmitting a carrier signal of a
predetermined frequency from an RFID reader; determining
whether the amplitude of the transmitted carrier signal is
modulated; transmitting a first gap signal; first checking
whether a tag responsive to a reader signal exists within a
read range and reading an initial response of a card; if the
tag exists within the tag read range, second checking whether
15 the initial response of the card read leads to data
collision; if the initial response does not lead data
collision, reading the data stored at memory of the tag with
a predetermined protocol; verifying the format of the read
data is verified; and if the verified format is valid,
20 generating a second gap signal to notify that data transfer
is complete and then repeating the steps from the step of
first checking for another card.